4

CITY DOCUMENT, NO. 4.

REPORT

ON

THE SMALL POX,

IN THE CITY OF PROVIDENCE,

FROM JANUARY TO JUNE, 1859.

BY

EDWIN M. SNOW, M. D.,

SUPERINTENDENT OF HEALTH.

PROVIDENCE:
KNOWLES, ANTHONY & CO., CITY PRINTERS.
1859.

SMALL POX IN PROVIDENCE.

1859.

To the Board of Health,
of the City of Providence.

Gentlemen:—Among the rules and regulations defining the duties of the Superintendent of Health of the city of Providence, is the following:—

"4. Whenever any cases of epidemic, infectious or contagious diseases shall occur in the city, it shall be the duty of the Superintendent of Health to examine the locality, and endeavor to ascertain and remove the causes of such diseases, and to take such measures as he may deem advisable, to prevent the spread of the same."

The occurrence of a considerable number of cases of small pox and varioloid in this city, during the past winter and spring, has seemed to call for the preparation of the following report.

There are two objects which have seemed to me important in its preparation.

The first, is to give an account to the Board of Health of the measures which have been taken, during the past winter, to prevent the spread of small pox in the city, and of the results accomplished by these measures.

The second object, is to collect, and preserve such facts in relation to the origin, progress, and prevention of the disease

as may be of importance to the community, and may be useful for warning and for guidance in future.

In preparing the report, I have first stated the origin, progress, and statistics of the disease; and have afterwards given an account of the preventive measures employed, and of their success.

ORIGIN OF THE DISEASE.

The origin of the disease, has been distinctly and definitely traced. A merchant of this city, visited New York, on the 12th of December, 1858, and was exposed, in some unknown manner, to small pox. After his return, he was taken with the varioloid; the eruption making its appearance on Christmas day, 1858. He had been vaccinated forty-four years before, at the age of four years. The disease was mild, requiring no medical attendance, and no suspicions arose in regard to its character. Of course, no precautions were taken to prevent the spreading of the contagion. This was the first case in the city; and to this case, nearly all that have occurred since, can be traced.

PROGRESS OF THE DISEASE.

The second case, was a child, of two years and eight months, living in the same house, (93 Bridgham street), with case number one. This child had never been vaccinated, and the small pox eruption showed itself on the 9th of January, 1859. The disease was not recognized until the eighth day of the eruption; so that varioloid or small pox existed in the house twenty-three days, from the commencement of the first case, without any precautions having been taken to prevent contagion. This fact is important to be remembered in its bearing upon the subsequent progress of the disease.

This child died, January 20th, 1859; *and this was the first*

death from small pox, which had occurred in this city, from the 16th day of May, 1856, to that time;—a period of two years, eight months, and four days.

The third case, was a colored seamstress, living on B street, who was employed in the house where the preceding cases occurred, and contracted the disease, which manifested itself on the 10th of January. This was a light case of varioloid; but was not recognized in season to prevent giving the disease to others.

The fourth case, was an infant, of three months, at 93 Bridgham street, and brother of the second case. The eruption commenced on the 20th of January, and the child died on the 1st day of February. This child was vaccinated on the 17th of January, as soon as the nature of the disease in the house was known; but it was too late to prevent the disease.

About the 20th of January, four other persons in the house (93 Bridgham street), were attacked with varioloid. The disease was very mild, and caused little inconvenience.

About the 1st of February, three cases of severe small pox commenced in the immediate neighborhood; two of which recovered, and one died.

It is not necessary to trace the disease farther, in connection with individual cases. The first thirty cases of small pox and varioloid which occurred, could nearly all be traced directly to this neighborhood, and to the cases already described.

The whole number of cases in January, was ten; of which three were small pox, and seven were varioloid. Seven were at 93 Bridgham street, two on Broad street, and one on B street.

Only six cases, three of small pox, and three of varioloid, commenced during the month of February. One of these, was on Central street, two on B street, and one each on Broad, South Main and Aborn streets. All were traced to the cases already described.

Until the beginning of March, the disease had been con-

fined to American families, who might be expected to take all necessary precautions to prevent contagion. Vaccination had been very generally attended to among the American population throughout the city, and we were congratulating ourselves that the disease had been arrested in its progress.

On the 12th of March, information was received of a case of small pox at No. 80 Aborn street. This house, together with the six houses known as Blake's Row, were occupied by about twenty-five families, all Irish. I visited the locality on the 13th of March, and found seven cases of small pox, and three of varioloid, in these houses; in all of which, the eruption commenced between the 10th and 12th of March. In the same houses, were twenty-one children who had never been vaccinated. They were all vaccinated on the following day, by the city physicians. Four of the above cases of small pox, and one of varioloid, were in the house No. 80 Aborn street.

It was ascertained that a boy, ten or twelve years of age, had recently been sick with the varioloid, the eruption of which, commenced about the 25th of February. This boy had the disease with considerable severity, and his friends, as well as the neighbors, were aware of its nature. Yet, strange as it may seem, no physician was called; no information was given to the Board of Health; the boy was allowed to mingle freely with the neighbors, and they took no measures whatever to protect their children by vaccination. The result was, as above stated, the simultaneous appearance of ten cases of the disease.

On Monday, March 14th, a crowded funeral was attended in one of these houses, where two children were sick with the small pox.

Under these circumstances, considering the large number of cases in this locality, and the class of persons affected, and the probability, so far as human judgment would indicate, that some of the cases would prove fatal,—the most vigorous measures seemed to be justified, to prevent the spread of

the disease. There seemed to be a great probability,—nay, almost a certainty, that notwithstanding every measure which could be taken, the disease would extend from this place, through the foreign population of the city. An account of the measures which were taken to arrest the progress of the disease, and of their success, will be given hereafter.

From the 15th to the 17th of March, inclusive, two cases of small pox, and eight of varioloid, commenced in different portions of the city, a majority of which were traced to the boy at 80 Aborn street.

During the month of March, twenty-nine cases, nine of small pox, and twenty of varioloid, were reported. Of these, twelve were at 80 Aborn street and in Blake's Row;—two each, were in Cedar, Eddy and Pearl streets; and one each, in Pine, Broad, High, D, Spring, Weeden, Pond, B, Lime, McDonough and Elm streets.

During the month of April, seventeen cases were reported. Of these, four were small pox, and thirteen were varioloid. Three were in Hoyle street; two each, in Broad street and Atwell's Avenue; and one each, in Broadway, Blake's Row, Chestnut, Hospital, North Main, South Main, Willow, Federal, Dean and C streets.

During the month of May, two cases of small pox, and nine of varioloid, were reported. Three cases were in Willow street, one at the Hospital, and one each, in Lemon, C, Allen, Knight, Dean and Carpenter streets, and in Graves' Lane.

The last case in the city, commenced on the 25th of May, and was well on the 15th of June. The whole duration of the disease, in the city, from the commencement of the first case, on the 25th day of December, 1858, to the 15th day of June, 1859, was five months and nineteen days. The whole number of cases of the disease during this period, was twenty-one of small pox, and fifty-two of varioloid. At the present time, July 16th, the city is supposed to be entirely free from the disease.

The following tables show the principal facts in relation to

all the cases of the disease, in the city, from its commencement on the first of January, to the present time. They include all the cases of varioloid as well as of small pox. These facts have been obtained by personal visits and inquiry. Many other facts, of more interest to physicians than to the public, have been omitted.

1859.	NUMBER OF CASES.			RESULTS.		SEX.		
	Small Pox.	Varioloid.	Total.	Died.	Recovered.	Males.	Females.	Total.
January.	3	7	10	1	9	5	5	10
February.	3	3	6	2	4	4	2	6
March.	9	20	29	0	29	14	15	29
April.	4	13	17	1	16	6	11	17
May.	2	9	11	0	11	4	7	11
Total.	21	52	73	4	69	33	40	73

The following table shows the ages of all who had the varioloid or small pox, and the wards of the city in which all the cases occurred.

1859.	AGE.					WARDS.							
	Under 5.	5 to 10.	10 to 15.	15 to 20.	20 & over.	I.	II.	III.	IV.	V.	VI.	VII.	Total.
January.	3	0	0	1	6	...	...	...	...	1	9	...	10
February.	1	0	2	0	3	...	...	1	1	1	3	...	6
March.	4	5	6	1	13	...	...	...	13	4	9	3	29
April.	2	3	1	2	9	1	...	1	2	4	5	4	17
May.	2	1	0	0	8	...	...	...	1	2	6	2	11
Totals.	12	9	9	4	39	1	0	2	17	12	32	9	73

Under five years of age, there were nine cases of small pox, and three of varioloid; between five and ten years, there were four cases of small pox, and five of varioloid; between ten and fifteen, there was one case of small pox, and eight of varioloid; between fifteen and twenty, there was one case of small pox, and three of varioloid; and of twenty years and over, there were six cases of small pox, and thirty-three of varioloid.

The following table shows the parentage and color of all who had the disease.

1859.	PARENTAGE.				COLOR.		
	American.		Foreign.				
	Small Pox.	Vario-loid.	Small Pox.	Vario-loid.	Whites.	Colored.	Total.
January.	3	7	0	0	9	1	10
February.	3	2	0	1	3	3	6
March.	1	8	8	12	26	3	29
April.	4	8	0	5	16	1	17
May.	2	8	0	1	10	1	11
Totals.	13	33	8	19	64	9	73

NOTES ON THE TABLES.

The preceding tables are supposed to include all the cases of small pox and varioloid that have occurred in the city. It is possible there may have been a few other cases of varioloid, like some included in the tables, so mild as scarcely to attract attention. It is also possible that some cases have not been reported, through the neglect of physicians; but I have no reason to suspect there are any such.

Of the four fatal cases of small pox, one was three months old, one three years, one four years, and one thirty-five years. One was a male, three were females; three were white, one was colored; all were of American parentage. One died on the eighth, one on the ninth, one on the tenth, and one on the eleventh day, after the commencement of the eruption. Two died at 93 Bridgham street, one at 26 B street, and one at the Hospital The fatal case at the Hospital, (a woman about thirty-five years of age), was particularly malignant, the pustules being generally confluent, and filling with bloody serum. She died on the eighth day of the eruption.

Of the whole number of cases (twenty-one) of small pox, eight were confluent and severe. Of these, four or one half died. Of the cases of distinct small pox, and of varioloid, none died.

Of the four cases of confluent small pox, which recovered, one was an infant only seven weeks old, at the commencement of the disease; one was a boy of five years, one a boy of fifteen years, and one a colored man of thirty years.

Of the fifty-two cases of varioloid, four were very severe, and undistinguishable from confluent small pox until the seventh or eighth day, when the sudden cessation of fever, and speedy dessication of the pustules showed that the previous vaccination had modified the disease, and, probably, saved the life of the patient.

All the cases of varioloid, of much severity, were in persons who had been vaccinated a considerable number of years previously, and had never been re-vaccinated. One case of severe varioloid was a woman about thirty years of age, who had been vaccinated in Ireland, when a child, and had a perfectly characteristic vaccination mark. In many cases, however, the marks of vaccination were not satisfactory. Eighteen of the cases of varioloid were extremely mild, with very few pustules, and causing no inconvenience to the persons affected. Yet one of these mildest cases, in which only six imperfect pustules were formed, was the source of contagion from which a child took severe small pox.

Of the twenty-one cases of small pox, nine, including three confluent cases, took no medicine whatever. Of the fifty-two cases of varioloid, thirteen had no medical attendance.

The average duration of the four fatal cases of small pox, was nine and a half days from the commencement of the eruption.

MEASURES EMPLOYED TO PREVENT THE DISEASE.

Since the establishment of the office of Superintendent of Health, the means employed in this city, to prevent small pox, have been as follows:

1. Free vaccination of all who desire it, at stated hours every week, throughout the year.

2. The requirement of a certificate of successful vaccination before any child can enter the public schools.

3. The immediate visitation, by the Superintendent of Health, of every case of small pox, or varioloid, that appears in the city. At this visit, printed and verbal directions are given in relation to measures to prevent contagion; provision is made for the vaccination or re-vaccination of all who have been exposed; and when it seems necessary, the sick person is removed to the Hospital. In most cases, however, they are allowed to remain at their homes.

4. Frequent appeals to the people, by hand bills, advertisements, and other means, to attend to the vaccination of themselves, and of their children.

Such are the means that have been used to prevent small pox in this city; and their success is seen in the fact that, during nearly three years previous to January last, there was not a single death from that disease, in the city.

During that period, however, there were at least seven cases of small pox or varioloid, in the city, which came from other places. Had no measures been taken to prevent contagion, each one of these cases might have been, and probably would have been the origin of many other cases of the disease. They were, however, promptly reported, and immediately visited; and the measures taken were so successful, that, not in a single instance, was the disease communicated to other persons.

Had the first case, the past season, been as promptly reported, there is every probability that the disease would have been arrested, and no lives would have been lost. But, as has already been stated, the disease existed twenty-three days before it was recognized, and in the mean time, many persons had been exposed.

When information was received, on the 18th of January, of the case of small pox at 93 Bridgham street, it was immediately visited, and all possible precautionary measures were taken. Hand bills, calling attention to the necessity of im-

mediate vaccination, were freely distributed, particularly in that portion of the city. Information was given through the newspapers, of the existence of the disease, and of the importance of vaccination. In this way, the attention of the people was aroused, and vaccination was very generally attended to by those who could be reached in this manner.

I visited every case of the disease that occurred, and urged the most careful measures to prevent contagion. These measures seemed to be successful; and during the whole month of February, only six new cases were reported.

Until the occurrence of the cases in Aborn street, in March, the disease, so far as was then known, had been confined to the American population, and it seemed probable that it would be limited to a small number of persons.

The large number of cases which were found in Aborn street, at one time, and the class of persons affected, destroyed all hopes of a cessation of the disease, and called for the most active measures. All unprotected persons in the neighborhood, were immediately vaccinated. As it was not deemed expedient to remove so many to the Hospital, they were permitted to remain at their homes. Small pox flags were put on every house, and a guard was placed to prevent the entrance of persons, without a permit. This was continued until the sick had recovered, and the houses had been thoroughly cleansed.

The wisdom and efficacy of this measure is shown by the result. Notwithstanding the number and severity of the cases, and the consequent concentration of the contagion, after the guard was established, not a single person, out of that neighborhood, contracted the disease from those who were sick there.

That it would have been otherwise, had not these measures been taken, is shown from the fact, that, every day in the week, and particularly on Sundays, scores of persons from every part of the city were prevented, by the guard, from visiting those who were sick.

Immediate measures were taken to obtain a general vaccination, particularly among the foreign population. Public appointments were made for free vaccination at the Plane street, Hospital street, and Walling street school houses, and at the Catholic school house, in Lime street. The Bishop of the Catholic church, was applied to, and courteously consented to give public notice of the appointments for vaccination, and to urge its importance upon the Catholic population.

By these means, the foreign population was effectually aroused; and the applications for vaccination were as numerous, as could be desired. Two hundred and forty-two were vaccinated in a single day. The result was, that the disease was effectually checked among the foreign population, by vaccination, as it had been, previously, among the American population, and all danger of a general prevalence of the disease in the city, or of a great mortality from it, was thus prevented.

Cases of the disease, mostly varioloid, however, continued to occur, during the months of April and May. There have been only six cases of small pox, in the city, since the last day of March. The last case commenced on the 25th day May.

From the 18th of January, until the present time, I have visited every case of small pox, and varioloid, that has come to my knowledge, with five exceptions. Some of the severest cases were visited several times. During this period, I have made one hundred and sixty-three visits to persons who were sick with the disease; and probably fifty visits to ascertain the truth of reports, which proved to be false. Nine cases of small pox, and thirteen of varioloid, had no other medical attendance, and on that account, needed more attention and direction in relation to preventive measures.

At these visits, every effort was made to inform every person, where the disease existed, of the requirements of the law; and also, to impress upon them the duty and necessity of doing every thing possible to prevent contagion to others. There can be no doubt that the verbal directions and per-

sonal appeals thus made, were of great service in preventing the disease.

From the 1st of January, to the 1st of July, *twelve hundred and three* persons were vaccinated by the city physicians, at the office of the Board of Health, and at the other places named. Of these, *nine hundred and ninety-four* were primary vaccinations, and *two hundred and nine* were re-vaccinations. It is probable that, during the same time, twice as many persons were vaccinated by physicians in the city, in their private practice.

During the same period, *sixteen hundred and twenty-nine* certificates of vaccination were given to children to enter the public schools.

Such are the measures which have been employed to prevent small pox in this city, during the past winter.

RESULTS OF THE MEASURES EMPLOYED.

It may be safely claimed, that the preventive measures employed during the past season, have done much to arrest the progress of small pox in the city, and have saved some, if not many lives. It is extremely probable that they prevented an extensive epidemic of the disease. When we recollect the circumstances connected with the first cases in Bridgham street; when we recollect the circumstances of the outbreak of the disease among the foreign population in Aborn street; when we recollect the large number of persons in the city, who, as the event proved, had never been vaccinated, it must be acknowledged that there was, at the commencement, every probability that there would be a large number of cases, and a corresponding number of deaths.

Instead of this, we have had twenty-one cases and four deaths only, from small pox; and fifty-two cases, with no deaths, from varioloid. Indeed, the greater portion of the cases of varioloid, have been very mild, and have brought no danger to those affected. Only three cases have occurred in the city, on the east side of the river; and only one of these

was among the large foreign population of that portion of the city. In neither of these cases was the disease communicated to any other person.

No one can doubt that the result would have been entirely different, if no effort had been made to prevent the disease, and it may be safely claimed, that the results show the importance of action in such cases; and that they also show, in a most marked manner, the importance and benefits of sanitary measures in the prevention of disease.

PROTECTIVE POWER OF VACCINATION.

I presume there is now little difference of opinion in regard to the value of vaccination as a protection against small pox. Its value is shown in a remarkable manner, by facts in this city, during the past winter.

Since the 1st of January last, one child, who was vaccinated eight days after exposure, had the small pox. Two other persons vaccinated six days after exposure, had the varioloid. These were vaccinated too long after exposure to contagion, to show the full protective power of vaccination. With these exceptions, not a single individual, so far as known, of the (probably) three thousand persons who have been vaccinated, or re-vaccinated, since the 1st of January, has had the slightest varioloid. This has not been from want of exposure to the disease; for, in one locality, we know of twenty-one children who were vaccinated for the first time, and were exposed to small pox repeatedly and continuously for weeks, and escaped the slightest symptoms of the disease. We also know, in other cases, that more than two hundred persons have been vaccinated or re-vaccinated, after exposure to small pox or varioloid, with perfect protection from all symptoms of the disease. In nearly all the cases of varioloid, some years, and, in the greater portion of them, many years had elapsed since the vaccination.

We also know that not a single person who had ever been vaccinated, at any period of life, has died from small pox

in the city, during the past winter; and we are satisfied that no person has had the small pox, who had ever been vaccinated. Two individuals have had the small pox and recovered, who supposed that they had been vaccinated; but they had no positive knowledge of the fact, had no marks of vaccination, and could furnish no evidence of it.

It is the opinion of those who have investigated the subject, that vaccination is a better protection against small pox, than small pox itself; and this opinion is confirmed by statistics. Prof. George B. Wood, of Philadelphia, in his valuable work, on the "*Practice of Medicine*," says:

"But thus far we may go, that vaccination affords the best attainable security, greater, even, than that accruing from a previous attack of small pox; and that, with due care, it will serve as an effectual safeguard in individual cases, almost without exception."

Can there be any doubt of the protective power of the vaccination?

COMMUNICATION OF DISEASE BY VACCINATION.

The idea is prevalent in the minds of many, perhaps of most persons, that there is danger of the communication of disease, from one person to another, by the vaccine virus. There is probably very little, if any, cause for fear on this account.

No injurious results of the slightest description, have been seen in any one of the twelve hundred and three persons, who have been vaccinated at the office of the Board of Health, since the 1st of January last; and we have heard of no evil results in any one of those who have been vaccinated by other physicians.

I have never known a case in which any disease, other than the vaccine disease, has been communicated by the vaccine virus; and, in my opinion, there is no disease that it is possible to communicate by vaccination, which is at all liable to be communicated in that way. Erysipelas has sometimes, though

not often, followed vaccination; and, not unfrequently, a rash appears after vaccination, particularly in children, who are teething at the time; but every intelligent physician knows that these results are not in the least dependent upon the character of the vaccine virus.

With the care that every conscientious physician takes, to obtain vaccine virus only from young and healthy children, I do not believe there is the least cause for fear of contracting disease from vaccination.

VACCINE VIRUS.

Another idea prevails to some extent in the minds of the people, and of some physicians. It is, that the vaccine virus loses its protective power in passing through the human race, and that it is therefore necessary to obtain it frequently from the cow. I think that this idea is entirely erroneous.

The vaccine virus used in this city, during the past winter, has been, almost universally, a solution in water, of the dried scab, taken from the arm from the fourteenth to the twentieth day after vaccination. We do not know the precise date when it was obtained from the cow; but we do know, that some years have elapsed since it was obtained, and that it has passed through a large number of persons.

Has the vaccine virus used here, at the present time, lost any of its specific character, or of its protective power? Let facts answer.

1. The vaccine vesicle which is formed, is perfect, in every respect, according to the description of Jenner; and follows precisely the described course, from the insertion of the virus to the separation of the scab, and leaves a perfectly characteristic vaccination mark.

2. It has given, during the present season, absolute, unqualified protection against repeated and continued exposure for weeks, to severe cases of small pox, and it has done this in scores of cases, *and without a single failure.*

It is impossible that there can be any better protection

against small pox than this; and those physicians in this city who have made observations upon the subject, during the past winter, are unanimous in the opinion that no better protection is desirable, or could be obtained by vaccine virus directly from the cow.

The best medical authorities upon the subject, also, coincide with the opinion, that the vaccine virus loses none of its protective power in passing through the human race; and that it is, therefore, unnecessary to resort to the cow, for such virus. Dr. Thomas Watson, in his "Practice of Medicine," says that he has had opportunities of satisfying himself, "that lymph which had been transmitted without interruption from person to person, ever since the time of Jenner, continued to generate as perfect a cow-pox vesicle as at first."

It is known to be extremely difficult to obtain the virus from the cow; and as there are supposed to be several diseases in the cow, somewhat similar to the vaccine disease, the experiment is thought to be dangerous.

It is found that the virus of small pox, and of syphilis, have not changed their specific character and effects, though transmitted from one person to another, for ages. Why should we expect a different result from the vaccine virus? But an extended discussion on this subject, belongs, perhaps, more properly, to medical journals. My object is to remove the doubts which may exist in the minds of some of the people, in relation to the protection from small pox, afforded by vaccination in this city, at the present time.

RE-VACCINATION.

It is found that many persons, when exposed to small pox, have the disease in a modified form, though they have been vaccinated. This modified small pox, is called *varioloid.* It is generally mild, and brings no danger to the person affected; but it is an unpleasant disease, and a person with the mildest varioloid, may give varioloid to those who have been

vaccinated; and may also give small pox to those who have never been vaccinated.

There are two theories to account for the existence of varioloid.

The first is, that though the first vaccination is successful and characteristic, it does not, in all cases, fully protect the system, and that a re-vaccination is necessary, to obtain this perfect protection.

The other theory is, that the first successful vaccination gives full and perfect protection for the time; but that after the lapse of a certain period of time, the changes in the human system, and particularly the change from childhood to adult life, partially destroy the protective power of the first vaccination, and render a re-vaccination necessary.

My opinion has always been, that the first theory is true; but the facts I have collected, during the past season, seem to favor the last theory. But whichever theory is true, *the necessity of re-vaccination is fully established.* A re-vaccination, with its peculiar modified effects, is the only certain proof that the first vaccination was good, and that the person is fully protected. And if a person has been vaccinated and re-vaccinated until no characteristic effect is produced by it, he may rest perfectly satisfied that he is safe from all danger of contracting either small pox or varioloid.

LAWS FOR THE PREVENTION OF SMALL POX.

Whatever measures may be taken to prevent contagion, when small pox exists in the community, and whatever may be their success,—

The only measure that can entirely prevent the disease, is, the vaccination of every individual in the community, at an early age.

Whatever laws and sanitary arrangements can best accomplish this object, are the best for the community.

The laws of this state give all necessary powers to boards of health, for the prevention of contagion when small pox ex-

ists, by removing the sick to the hospital, by placing a guard around infected houses, and other similar provisions; but they have no provisions to prevent the disease by vaccination, except that town councils are required to offer free vaccination to all who choose to avail themselves of it, *as often as once in five years.*

In this city, free vaccination is provided every Saturday, during the year; and a city ordinance also provides that no child shall enter the public schools without a certificate of successful vaccination.

Such are the laws in relation to the subject, in this city; and it will be readily seen, that they must fail to accomplish the object desired, viz.: the early vaccination of every individual in the community. A large number of persons, from ignorance of its importance, or from criminal neglect of their duty, will constantly fail to avail themselves of the free vaccination which is offered. It is only when small pox appears, that they begin to realize the importance of vaccination, and give attention to it.

The provision for vaccination, before entering the public schools, is of very great benefit; and many children are vaccinated for the first time, when they enter these schools, at the age of five years. But some children do not attend these schools; and as about seventeen hundred children are born in the city, every year, if none were vaccinated until the age of five years, we should constantly have several thousand children, in the city, who were not protected from small pox.

But notwithstanding the deficiencies of the present arrangements, so far as legal enactments are concerned, I am not prepared to recommend any change. Compulsory vaccination, which is enforced in some countries, has proved an entire failure, thus far, in England. It is supposed not to be in accordance with the spirit of our institutions, and if it were desirable, could not be enforced in this country:—certainly not in Rhode Island. Probably a majority of our citi-

zens would rather risk one attack of small pox, than be saved by compulsory vaccination.

But while our people are so jealous of personal rights, the greater portion of them are prompt to respond to appeals to their good sense; and as knowledge increases upon the subject, they can generally be reached in this way. To that portion of the population which is not so readily reached by handbills, and through the public press, it might be well to offer free vaccination at their homes, from time to time.

I am satisfied that the population of this city is very generally vaccinated at the present time; and without any change in the existing laws, it will be possible hereafter to prevent all danger of an extensive epidemic of small pox.

There has been great neglect, on the part of some of the teachers in the public schools, in relation to their duty to require certificates of vaccination from all children who enter these schools. This subject is, however, within the control of the school committee, and no change is necessary in the present laws and ordinances.

I have thus presented the facts in relation to the small pox in this city, during the past winter and spring; have shown what measures have been employed to prevent the disease; and have given some conclusions upon different topics connected with the subject. The small number of cases, and of deaths, would hardly seem to call for a report upon the subject. But if it has been shown that any amount of disease, however small, has been prevented, no apology may be necessary for the presentation of this report, notwithstanding the lack of statistics of mortality.

The small pox is the most contagious disease known, and has been one of the greatest scourges of the human race. No change of climate, or of circumstances, can prevent the contagion among those who are not protected; and yet, thanks to the discovery of the immortal Jenner, there is a simple, easily applied, harmless, and perfectly sure preventive, which is

within the reach of all who will accept of it. Wherever this preventive is generally applied, this terrible scourge is deprived of its terrors, and becomes one of the least important diseases to the community.

Such being the case, the extensive prevalence, or long continued existence of small pox in any civilized community, is a deep disgrace to that community. It is a disgrace to the authorities, if they do not apply the preventive to the fullest extent possible, consistent with the laws under which they act; it is a disgrace to the people, if they do not avail themselves of the certain preventive which is offered.

I had intended to give some interesting incidents connected with the small pox, during the past season; to relate several instances in which the measures employed were undoubtedly the means of saving life, and of preventing the disease in neighboring towns; and also to make some remarks upon other topics, relating to the subject. But this report is already extended beyond my expectations, and is herewith

Respectfully submitted,

EDWIN M. SNOW, M. D.,

Supt. of Health.

PROVIDENCE, July 16th, 1859.